

What is claimed is:

1. An apparatus for transferring substrates from a first location to a second location, comprising:

a) a flexible conveying means;

b) a plurality of transfer units mounted to said conveying means, said transfer units being capable of holding said substrates;

c) a cam track defining a path between said first and second locations; and

d) means for driving said conveying means along said cam track.

2. The apparatus of claim 1, wherein the transfer units are mounted to said conveying means in a cantilever configuration.

3. The apparatus of claim 1, wherein each transfer unit comprises first and second retainers made of an elastomeric material and comprising segmented fingers, said first retainer capable of holding a first substrate and said second retainer capable of holding a second substrate.

4. The apparatus of claim 3, wherein said first and second retainers are located side by side within each transfer unit.

5. The apparatus of claim 1, wherein each transfer unit comprises a plurality of cam followers that ride in said cam track.

6. The apparatus of claim 1, further comprising vacuum means for applying a vacuum to said substrates while they are held by the transfer units.

7. The apparatus of claim 1, wherein said driving means comprises a drive pulley and an idler pulley linked together such that the drive pulley and the idler pulley move together.

8. The apparatus of claim 1, wherein said transfer units are rotatably mounted to said conveying means, such that said transfer units are capable of being rotated while they are being transferred from said first location to said second location.

9. The apparatus of claim 9, wherein said apparatus further comprises a rotatable actuator arm linked to said transfer units such that as said actuator arm rotates, said transfer units rotate.

5 10. An apparatus for transferring substrates from a first operating module comprising a first rotor adapted to carry said substrates around a first circular path to a second operating module comprising a second rotor adapted to carry said substrates around a second circular path, said apparatus comprising a flexible conveying means traversing a third path, a first portion of said third path being coincident with a portion of
10 said first circular path and a second portion of said third path being coincident with a portion of said second circular path.

15 11. The apparatus of claim 10, wherein said flexible conveying means operates at a velocity matching the velocities of the first rotary module and the second rotary module.